## US National Phase of PCT/MX2004/000058 Filed: Herewith

## LISTING OF THE CLAIMS

- 1. (Currently amended) A method to purify for purifying crude diacerein by the toluene approach, wherein the diacerein is obtained by acetylation and chrome oxidation, characterized by comprising the following steps:
  - a) erude diacerein is dissolved dissolving the crude diacerein in acetone/water[[,]];
  - b) <u>adjusting</u> the pH is adjusted with a tertiary amine in acetone[[,]];
  - c) <u>stirring</u> the solution is stirred for about six hours[[,]];
  - d) adding an organic water immiscible-solvent is added and to the solution is stirred;
- e) <u>separating</u> the organic solvent phase is separated from the acetone/water phase[[,]];
- f) the extraction is repeated repeating steps d) and e) about 5 to 15 times with the organic water immiscible solvent and, every time, the organic phase is separated from the acetone/water phase;
- g) <u>crystallizing</u> the diacerein is crystallized from the acetone/water phase upon by changing the pH from neutral to acid with a strong acid[[,]]; and
- h) <u>collecting</u> the crystallized product is centrifuged or filtered, washed with water and dried by centrifugation or filtration.
- 2. (Currently amended) A method to purify crude diacerein by the toluene approach The method of claim 1, wherein the diacerein is obtained by acetylation and chrome oxidation, according to claim 1, characterized in that in step a), the crude diacerein is dissolved, while wet, in a 1/1 acetone/water mixture in an proportion of about 13 times the volume of dry diacerein, and it is stirred until completely dissolved.
- 3. (Currently amended) A method to purify crude diacerein by the toluene approach The method of claim 1, wherein the diacerein is obtained by acetylation and chrome oxidation, according to claim 2, characterized in that in step b), the pH is adjusted at to 6.6-7.2, preferably 7.0-7.2, with a solution of a tertiary amine in acetone.

US National Phase of PCT/MX2004/000058
Filed: Herewith

- 4. (Currently amended) A method to purify crude diacerein by the toluene approach, wherein the diacerein is obtained by acetylation and chrome oxidation, according to The method of claim 3, characterized in that a wherein the tertiary amine is a trialkylamine with C1-4 alkyl groups may be used as a tertiary amine, preferably selected from the group: trimethylamine, triethylamine, tripropylamine, methyldiethylamine, diethylpropylamine, among which triethylamine is most preferred.
- 5. (Currently amended) A method to purify crude diacerein by the toluene approach, wherein the diacerein is obtained by acetylation and chrome oxidation, according to The method of claim 2 1, characterized in that wherein in step c), stirring lasts the solution is stirred for about six hours in order for the diacerein to dissolve completely.
- 6 (Currently amended) A method to purify crude diacerein by the toluene approach, wherein the diacerein is obtained by acetylation and chrome oxidation, according to The method of claim 1, characterized in that wherein in step d), once the diacerein is completely dissolved, it is purified by organic extraction with a the water\_immiscible[[-]]solvent, which is selected from the group consisting of[[:]] benzene, toluene, xylene, isobutyl acetate and ethyl acetate, among which toluene is most preferred.
- 7. (Currently amended) A method to purify crude diacerein by the toluene approach, wherein the diacerein is obtained by acetylation and chrome oxidation, according to The method of claim 1, characterized in that wherein in step e) the extraction of diacerein with the organic water immiscible-solvent is performed[[,]] in a volume of toluene organic solvent equivalent to 1.6 volumes of the dry diacerein is added to the dissolution; the dissolution is stirred and the organic phase is separated from the acetone/water solution; about 5 to 15 repeated extractions (step f) are performed with the same amount of organic water immiscible solvent and with the same proportion of the solvent to dry diacerein.
- 8. (Currently amended) A method to purify crude diacerein by the toluene approach, wherein the diacerein is obtained by acetylation and chrome oxidation, according to claim 7,

US National Phase of PCT/MX2004/000058 Filed: Herewith

eharacterized in that a minimum of 10 repeated extractions is preferred The method of claim 1, wherein steps d) and e) are performed between 10 and 15 times.

- 9. (Currently amended) A method to purify crude diacerein by the toluene approach, wherein the diacerein is obtained by acetylation and chrome oxidation, according to claim 7, characterized in that about 15 repeated extractions with the organic solvent are preferably performed. The method of claim 8, wherein steps d) and e) are performed about 15 times.
- 10. (Currently amended) A method to purify crude diacerein by the toluene approach, wherein the diacerein is obtained by acetylation and chrome oxidation, according to The method of claim 1, characterized in that wherein in step g), after at least 10 extractions with the organic water immiscible solvent, the diacerein is crystallized in water at a pH between about 2.5 and about 3.0 with a strong acid, such as sulphuric, hydrochloric or phosphoric acid.
- 11. (Currently amended) A method to purify crude diacerein by the toluene approach, wherein the diacerein is obtained by acetylation and chrome oxidation, according to The method of claim 10, characterized in that 80% phosphoric acid is preferred wherein the strong acid is selected from the group consisting of sulfuric acid, hydrochloric acid and phosphoric acid.
- 12. (Currently amended) A method to purify crude diacerein by the toluene approach, wherein the diacerein is obtained by acetylation and chrome oxidation, according to The method of claim 1, characterized in that in step h), it is further comprising washing the centrifuged or filtered crystallized product with water and dried drying said washed product.
- 13. (Currently amended) A method to purify crude diacerein by the toluene approach, wherein the diacerein is obtained by acetylation and chrome oxidation, according to The method of claim 1, characterized in that wherein the yield of diacerein is obtained under a 90-93% yield, with an the average purity of is 99.17%, a the content of aloe-emodin of is about 7-10 ppm and a the content of chromium of about 20-25 ppm.
  - 14. (New) The method of claim 3, wherein the pH is adjusted to 7.0-7.2.

## US National Phase of PCT/MX2004/000058 Filed: Herewith

- 15. (New) The method of claim 4, wherein the tertiary amine is selected from the group consisting of trimethylamine, triethylamine, tripropylamine, methyldiethylamine and diethylpropylamine.
  - 16. (New) The method of claim 6, wherein the water-immiscible solvent is toluene.
  - 17. (New) The method of claim 11, wherein the strong acid is phosphoric acid.